

Amendments to the Claims

This listing of claims will replace all prior versions, and listings, of the claims in the application.

Listing of Claims

1. (currently amended) A distal protection assembly, comprising:
  - an outer sheath having a proximal end, a distal end, and a lumen extending therethrough;
  - an inner shaft disposed within the lumen, the inner shaft having a proximal end and a distal end;
  - a distal protection device disposed at the distal end of the inner shaft;
  - a manifold coupled to the proximal end of the inner shaft, the manifold including an actuator assembly; and
  - the actuator assembly coupled to the proximal end of the outer sheath and capable of moving the outer sheath relative to the inner shaft; wherein the actuator assembly includes a button and a gear; and wherein the button is longitudinally movable along a line that is parallel to the longitudinal axis of the sheath.
2. (original) The distal protection assembly in accordance with claim 1, wherein the distal protection device comprises a filter.
3. (original) The distal protection assembly in accordance with claim 1, wherein the distal protection device comprises a mesh.

4. (original) The distal protection assembly in accordance with claim 1, wherein the distal protection device comprises a strut.

5. (original) The distal protection assembly in accordance with claim 1, wherein the distal protection device comprises a rib.

6. (previously presented) The distal protection assembly in accordance with claim 1, wherein the actuator assembly includes a second button.

7. (cancelled)

8. (currently amended) A distal protection assembly, comprising:  
an outer sheath having a proximal end, a distal end, and a lumen extending therethrough;  
an inner shaft disposed within the lumen, the inner shaft having a proximal end and a distal end;  
a distal protection device disposed at the distal end of the inner shaft;  
a manifold coupled to the proximal end of the inner shaft, the manifold including an actuator assembly;  
the actuator assembly coupled to the proximal end of the outer sheath and capable of moving the outer sheath relative to the inner shaft; wherein the actuator assembly includes a button and a gear; and

~~The distal protection assembly in accordance with claim 1, further comprising an actuator retention cover.~~

9-16. (cancelled)

17. (currently amended) A distal protection assembly, comprising:  
an outer sheath having a proximal end, a distal end, and a lumen extending  
therethrough;

an inner shaft disposed within the lumen, the inner shaft having a proximal end  
and a distal end;

a distal protection device disposed at the distal end of the inner shaft;  
a manifold coupled to the proximal end of the inner shaft, the manifold including  
an actuator assembly;

the actuator assembly coupled to the proximal end of the outer sheath and capable  
of moving the outer sheath relative to the inner shaft; wherein the actuator assembly  
includes a button and a gear;

wherein the button is coupled to the gear; and

~~The distal protection assembly in accordance with claim 14, wherein the button is~~  
axially rotatable.

18. (original) The distal protection assembly in accordance with claim 17,  
wherein axial rotation of the button results in movement of the outer sheath relative to the  
inner shaft.

19. (cancelled)
20. (currently amended) A distal protection assembly, comprising:  
an outer sheath having a proximal end, a distal end, and a lumen extending  
therethrough;  
an inner shaft disposed within the lumen, the inner shaft having a proximal end  
and a distal end;  
a distal protection device disposed at the distal end of the inner shaft;  
a manifold coupled to the proximal end of the inner shaft, the manifold including  
an actuator assembly;  
the actuator assembly coupled to the proximal end of the outer sheath and capable  
of moving the outer sheath relative to the inner shaft; wherein the actuator assembly  
includes a button and a gear;  
wherein the actuation assembly further comprises a second gear and a second  
button; and  
The distal protection assembly in accordance with claim 19, wherein pressing the second button moves the outer tube in a direction that is opposite to pressing the first button.
21. (currently amended) A distal protection assembly, comprising:  
an outer sheath having a proximal end, a distal end, a lumen extending therethrough, and a proximal tubular member tube coupled to the proximal end;

the proximal tubular member including teeth;  
an inner shaft disposed within the lumen, the inner shaft having a proximal end  
and a distal end;  
a distal protection device disposed at the distal end of the inner shaft;  
a manifold coupled to the proximal end of the inner shaft, the manifold including  
an actuator assembly;  
the actuator assembly having a gear that is engagable with the teeth; [[and]]  
wherein the actuator assembly is coupled to the proximal tubular member and  
capable of moving the outer sheath relative to the inner shaft;  
wherein the actuator assembly further comprises a button coupled to the gear; and  
wherein the button is rotatable.

22. (original) The distal protection assembly in accordance with claim 21,  
wherein the distal protection device comprises a filter.

23. (original) The distal protection assembly in accordance with claim 21,  
wherein the distal protection device comprises a mesh.

24. (original) The distal protection assembly in accordance with claim 21,  
wherein the distal protection device comprises a strut.

25. (original) The distal protection assembly in accordance with claim 21,  
wherein the distal protection device comprises a rib.

26. (original) The distal protection assembly in accordance with claim 21, wherein the actuation assembly includes a thumbwheel coupled to the gear.

27-29. (cancelled)

30. (currently amended) The distal protection assembly in accordance with claim [[27]] 21, wherein the button is axially rotatable.

31. (original) The distal protection assembly in accordance with claim 30, wherein axial rotation of the button results in movement of the outer sheath relative to the inner shaft.

32. (cancelled)

33. (currently amended) A distal protection assembly, comprising:  
an outer sheath having a proximal end, a distal end, a lumen extending  
therethrough, and a proximal tubular member tube coupled to the proximal end;  
the proximal tubular member including teeth;  
an inner shaft disposed within the lumen, the inner shaft having a proximal end  
and a distal end;  
a distal protection device disposed at the distal end of the inner shaft;

a manifold coupled to the proximal end of the inner shaft, the manifold including an actuator assembly;

the actuator assembly having a gear that is engagable with the teeth;

wherein the actuator assembly is coupled to the proximal tubular member and capable of moving the outer sheath relative to the inner shaft;

wherein the actuator assembly further comprises a button coupled to the gear;

wherein the actuation assembly further comprises a second gear and a second button; and

~~The distal protection assembly in accordance with claim 32, wherein pressing the second button moves the outer tube in a direction that is opposite to pressing the button.~~

34. (currently amended) A method of actuating a distal protection assembly, comprising the steps of:

providing a distal protection assembly including an outer sheath having a proximal end, a distal end, and a lumen extending therethrough; an inner shaft disposed within the lumen, the inner shaft having a proximal end and a distal end; a distal protection device disposed at the distal end of the inner shaft; a manifold coupled to the proximal end of the inner shaft, a proximal tubular member including teeth, the proximal tubular member disposed within at least a portion of the manifold and coupled to the proximal end of the outer sheath; the manifold including an actuator assembly; and the actuator assembly coupled to the proximal tubular member and capable of moving the outer sheath relative to the inner shaft;

actuating the actuator assembly; [[and]]

wherein actuating the actuator assembly shifts the distal protection device between a delivery position and a retrieval position;

wherein the actuator assembly includes a gear;

wherein the gear is engageable with the proximal tubular member;

wherein the actuator assembly further comprises a button coupled to the gear and wherein the step of actuating the actuator assembly includes pressing the button;

wherein the actuator assembly further comprises a second gear and a second button coupled to the proximal tubular member and wherein the step of actuating the actuator further comprises pressing the second button; and

wherein pressing the second button moves the outer tube in a direction that is opposite to pressing the button.

35. (original) The method in accordance with claim 34, wherein the step of actuating the actuator assembly further comprises collapsing the distal protection device.

36. (original) The method in accordance with claim 34, wherein the step of actuating the actuator assembly further comprises expanding the distal protection device.

37-38. (cancelled)

39. (original) A method of actuating a distal protection assembly, comprising the steps of:

providing a distal protection assembly including an outer sheath having a proximal end, a distal end, and a lumen extending therethrough; an inner shaft disposed within the lumen, the inner shaft having a proximal end and a distal end; a distal protection device disposed at the distal end of the inner shaft; a manifold coupled to the proximal end of the inner shaft, a proximal tubular member including teeth, the proximal tubular member disposed within at least a portion of the manifold and coupled to the proximal end of the outer sheath; the manifold including an actuator assembly; and the actuator assembly coupled to the proximal tubular member and capable of moving the outer sheath relative to the inner shaft;

actuating the actuator assembly;

wherein actuating the actuator assembly shifts the distal protection device between a delivery position and a retrieval position; and

~~The method in accordance with claim 38, wherein the step of actuating the actuator assembly further comprises rotating a thumbwheel coupled to the gear.~~

40-44. (cancelled)

45. (currently amended) A method of actuating a distal protection assembly, comprising the steps of:

providing a distal protection assembly including an outer sheath having a proximal end, a distal end, and a lumen extending therethrough; an inner shaft disposed within the lumen, the inner shaft having a proximal end and a distal end; a distal protection device disposed at the distal end of the inner shaft; a manifold coupled to the

proximal end of the inner shaft, a proximal tubular member including teeth, the proximal tubular member disposed within at least a portion of the manifold and coupled to the proximal end of the outer sheath; the manifold including an actuator assembly; and the actuator assembly coupled to the proximal tubular member and capable of moving the outer sheath relative to the inner shaft;

actuating the actuator assembly;

wherein actuating the actuator assembly shifts the distal protection device between a delivery position and a retrieval position; and

~~The method in accordance with claim 38, wherein the step of actuating the actuator assembly includes axially rotating a button and wherein rotating the button results in movement of the outer sheath relative to the inner shaft.~~